DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-002400
Date Inspected: 18-May-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1630
Location: Shanghai, China

CWI Name:	Lvliqing and Zhang Bao Lei	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes ☐ No ☐ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☑ Yes ☐ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: OBG And SAS Tower Fabrication

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on these Bays mentioned below;

Bay # 2: 77 and 114M Tower Mock-ups, Plate Cutting, Rolling

This QA Inspector observed Tower Mock-up was idle so with the cutting machine. On separate location, this QA has observed rolling of 60mm thick plate with no visible marking. Also on horizontal milling machine, three 75mm thick plates with mark SA333, 23MT SA261 and 23M SA261 were seen in-progress on beveling.

Bay 3-OBG side/bottom panel:

QA Inspector Lizardo randomly observed ZPMC qualified welder ID#s 037779, 053753 tack welding T stiffener plates to bottom panel BP169-001 and BP142-001 using a shielded metal arc welding (SMAW) process and utilizing THJ506Fe with 4.0mm diameter electrode.

At one location Submerged Arc Welding on plate splice of side panel SP426-001-011 was observed. This splice weld is being welded by qualified welder Jiang Jing Tang ID# 046830 and was using a WPS-B-T-2221-B-L2C-S-1. This QA Inspector noted ZPMC QC Inspector at the vicinity of the welder

monitoring the parameters.

At gantry #1 and #2, this QA Inspector observed setting up/clamping on bottom plate marked BP034-001 and side panel SP083-001 getting ready for FCAW fillet welding.

Bay 4 Tower Diaphragm

This QA Inspector randomly observed ZPMC welder welding fill passes on splice plate weld joint # WSD1-SA078-1B for tower diaphragm. This welder was observed welding in the 1G (flat) position utilizing a submerged arc welding (SAW) process with a 4.0mm diameter electrode. QA Inspector Lizardo observed the ZPMC QC CWI Inspector Mr. Zhao Chen Sun verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). Welding parameters observed by QA Inspector Lizardo were 524Amps, 31Volts with 434mm/min travel speed. These parameters appear to be in general compliance with the approved WPS-B-T-2221-B-U3c-S-1.

This QA Inspector also observed tack welding on sub-assembly of heavy plate taking place on one location of this bay without QC or CWI monitoring. This sub-assembly is intended for tower diaphragm ring and being welded by ID# 054460 using FCAW. This QA Inspector made two separate visits and no QC or CWI was noted.

Caltrans QA J. Lizardo observed plate straightening SA234(W)+P1297 weld number 10A and 10B using procedure HSR1(T)-1771 of less than 600 degree C with natural gas. This straightening is done due to weld distortion and its being monitored by ZPMC CWI Inspector Xie Chang Jiang.

On separate location, this QA observed tack welding of run off tab and plate splice joint on tower diaphragm plate marked NSDI-SA-333 A/B using SMAW with 4mm diameter, E9018M H4R electrode and being tack welded by ID# 037997 and monitored by CWI Yeyong Jun.

Bay #7: Orthotropic Box Girder (OBG) Floor Beams

This QA Inspector observed tack welding/fit-up on flange to web on floor beams marked FB004-007 and FB014-008. These two beams are being welded by ID# 049339 using Shielded Metal Arc Welding E-7018 electrodes. Flux Cored Arc Welding on fillet weld of web to flange was also observed on floor beam marked FB014-014-007 being welded by ID# 067036 with welding parameters 294Amps, 29.5 Volts with 432 travel speed and following procedure WPS-B-T-2132-3. Another FCAW fillet welding was noted on stiffener plates to flange and web of floor beam FB003-054 being welded by Zhang Wei ID# 066399.

Bay #8: Tower Diaphragms

Caltrans QA observed Submerged Arc Welding (SAW) on one tower diaphragm. This joint splice plate was being welded by ID# 045270 using WPS-B-T-2221-B-U3C-S-1. The splice joint was marked NDI-A10-7B and the welding parameters observed were 715Amps, 32Volts with 560 mm/min. CWI Lvliqing and QC were seen monitoring the welding parameters on this welder.

This QA Inspector also observed hot bending using natural gas on heavy plate/flange marked P1082(N)-4/10(X)

with the aid of hydraulic ram and welded jig. These plates are intended for diaphragm ring that will be spliced together. The procedure HSR1(T)-1212 is being followed and heat input is monitored by ZPMC QC of less than 650 degree C.

Bevel cutting on various heavy plates without visible marking intended for diaphragm ring is also on going in this bay.

Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer